Listing of the claims:

Claims 1-61 (Cancelled)

62. (Allowed: Previously Presented) An isolated UDP-N-Acetylglucosamine: Galactose-β1,3-N-Acetylgalactosamine-α-R β1,6 N-Acetylglucosaminyltransferase (C2GnT) polypeptide comprising the amino acid sequence of residues 39-453 of SEQ ID NO: 2.

63. (Allowed: Previously Presented) The isolated C2GnT polypeptide of claim 62, comprising the amino acid sequence of SEQ ID NO:2.

64. (Allowed: Previously Presented) The isolated C2GnT polypeptide of claim 62, having the amino acid sequence of SEQ ID NO:2.

65. (Currently amended) An isolated C2GnT polypeptide having glycosyltransferase activity and at least ~~45%~~ 80% amino acid sequence identity to the amino acid sequence of SEQ ID NO: 2.

66. (Currently amended) The isolated C2GnT polypeptide of claim 65, wherein said amino acid sequence identity is at least ~~60%~~ 90%.

67. (Allowed: Previously Presented) The isolated C2GnT polypeptide of claim 65, wherein said amino acid sequence identity is at least 95%.

68. (Currently amended) An isolated C2GnT polypeptide having having glycosyltransferase activity and at least ~~45%~~ 80% amino acid sequence identity to a human C2GnT enzyme which is expressed *in vivo* at a higher level in thymus tissue than in tracheal and thyroid tissue.

69. (Currently amended) The isolated C2GnT polypeptide of claim 68, wherein said amino acid sequence identity is at least ~~60%~~ 90%.

70. (Allowed: if rewritten in independent form; Previously Presented) The isolated C2GnT polypeptide of claim 68, wherein said amino acid sequence identity is at least 95%.

71. (Allowed: Previously Presented) An isolated polypeptide having at least 95% amino acid sequence identity to SEQ ID NO:2 and C2GnT enzymatic activity.

72. (Currently amended) A C2GnT polypeptide produced by a method comprising:
(i) introducing into a host cell an isolated DNA molecule encoding a human C2GnT polypeptide, or a DNA construct comprising a DNA sequence encoding a C2GnT polypeptide;
(ii) growing the host cell under conditions suitable for human C2GnT expression; and
(iii) isolating C2GnT polypeptide produced by the host cell,
wherein said C2GnT polypeptide has glycosyltransferase activity and is at least ~~45%~~ 80% identical to SEQ ID NO:2.

73. (Currently amended) The C2GnT polypeptide of claim 72, wherein said C2GnT polypeptide is at least ~~60%~~ 90% identical to SEQ ID NO:2.

74. (Allowed: Previously Presented) The C2GnT polypeptide of claim 72, wherein said C2GnT polypeptide is at least 95% identical to SEQ ID NO:2.

75. (Withdrawn) A method for preparing an oligosaccharide comprising contacting a compound comprising an activated GlcNAc, an acceptor, and the C2GnT polypeptide of any of claims 62, 65, 68, 71, and 72.

76. (Withdrawn) A method for preparing an oligosaccharide comprising contacting a compound comprising an activated GlcNAc, an acceptor, and a C2GnT polypeptide comprising the amino acid sequence of residues 39-453 of SEQ ID NO: 2.

77. (Withdrawn) The method of claim 76, wherein the C2GnT polypeptide comprises the amino acid sequence of SEQ ID NO:2.

78. (Withdrawn) The method of claim 76, wherein the C2GnT polypeptide has the amino acid sequence of SEQ ID NO:2.